POLE SHIFT 2000
The Final Climate Crisis?

Could the uneven build-up of the Antarctic ice-cap trigger a pole shift of the planet?

Part 2

© by Richard W. Noone

Reprinted with permission from
The Philosopher's Stone
(Third Quarter, 1989)
Published by
The Stelle Group
127 Sun Street, Stelle, IL 60919, USA
Telephone: (815) 256 2200

NOTES OF A CONFERENCE WITH EINSTEIN

In January 1955, Charles Hapgood and James Campbell, long an associate of his who worked out the displacement mechanics of the Earth's crust, or lithosphere, met in conference with Einstein. A number of important and fairly technical questions relating to pole shift were discussed in some detail. Those present were Hapgood, Campbell, Einstein, and Mary G. Grand who recorded the event.

After some introductory remarks, Professor Hapgood explained that in the development of the theory he had been concerned mainly with geological and palaeontological evidence, while Mr Campbell contributed basic concepts in mechanics and geophysics. The notes of that conference follow:

"Professor Hapgood explained further that Mr Campbell's calculations had now advanced to a point where he felt that a consultation was necessary. The principal question was whether the tangential portion of the centrifugal effect resulting from the rotation of the ice-cap was the correct order of magnitude to cause fracturing of the Earth's rigid crust. Dr Einstein had stated in a letter to Professor Hapgood that, owing to the oblate shape of the Earth, the crust could not be displaced without fracturing and that the tensile strength of the crust, opposing such fracturing, was the only force he could see that could prevent a displacement of the crust. He had already suggested, therefore, that it would be necessary to compare the bursting stresses proceeding from the south pole ice-cap with the available data on the strengths of the crustal rocks.

"It was this problem that now, through the calculations made by Mr Campbell, seemed to be solved.

"Mr Campbell explained to Dr Einstein the principles he had followed in making the calculations. He used photostatic drawings as illustrations. He showed that the crust, in attempting to pass over the equatorial bulge of the Earth, would be stretched to a slight degree. A bursting stress would arise that would tend to tear the 40-mile-thick crust of the Earth apart. This stress would in all probability exceed the plastic limit of the crustal rocks; that is, they would tend to yield by fracture, if the stress was great enough.

"Dr Einstein said yes, but he wondered how an equilibrium of force would be created. Mr Campbell pointed out that two equal and opposite pressures would arise, since, at the same time on opposite sides of the globe, two opposite sectors or quadrants of the Earth's crust would be attempting to cross the equatorial bulge.

"Dr Einstein agreed that this was reasonable, but raised the question of the behavior of the semiliquid underlayer of the bulge, under pressure from the rigid crust. After some discussion it was agreed that this underlayer, despite its lack of strength, would not be displaced because of the effect of the centrifugal momentum of the Earth.

"Mr Campbell then explained the application of a principle by which the tangential stress proceeding from the ice-cap was greatly magnified. He considered that the bulge of the Earth, starting with zero thickness at the poles and approaching 6.67 miles in thickness at the equator, behaved physically as a wedge resisting the movement of the crust. Since the distance from pole to equator is about 6,000 miles, the ratio of this wedge was 1,000:1; but the existence of two wedges on opposite sides of the globe reduced the ratio to 500:1.

"The ice-cap's tangential effect, multiplied by 500 and divided by the number of square inches of the cross-section of the lithospheric shell at the equator (assuming the crust to be 40 miles thick), produced a bursting stress on that shell of 1,738 pounds per square inch.

After examining each step in the argument twice, Dr Einstein had the impression that the principles were right, and that the effects were of the right order of magnitude. He stated that he would be satisfied if the bursting stress and the strength of the Earth's crust were in the ratio of not more than 1:100, since the Earth's crust varied so greatly in strength from place to place and would undoubtedly yield at its weakest point.

"Mr Campbell explained an effect he had often observed, which illustrated the process by which the crust of the Earth might yield to fracture. A common method of splitting a block of granite is to drill two small holes, about six inches apart, near the center of the long axis of granite, and insert and drive home a wedge in each hole. A bursting stress of sufficient magnitude is brought to bear to split the rock. However, the rock is not split all at once. Enough stress is brought to bear to start a fracture, but the fracture does not take place instantaneously. If the wedges are put in place in the evening, it will be found next morning that the whole rock has been split evenly along a line extending through the two holes. The fracture has slowly migrated through the rock during the night. The force required to split rock in this way is but a fraction of that required to split it all at once. So far as the Earth's crust is concerned, what is required is not a force sufficient to split it all at once, but simply a force sufficient to initiate a fracture or fractures which will then gradually extend themselves during possibly considerable periods of time.

"Professor Hapgood next described the geological evidence of worldwide fracture systems extending through the crust and weakening it, and the remarkable similarity of those patterns to those which, theoretically, would result from a movement of the crust. Dr Einstein expressed great interest in this evidence.

"Professor Hapgood referred to the Hough-Urry findings of the dates of climatic change in Antarctica during the Pleistocene. Dr Einstein stated that the method of radioactive dating developed by W. D. Urry was sound and reliable. As a result, Dr Einstein was in full agreement that the data from Antarctica, indicating that that continent enjoyed a temperate climate at a time when a continental ice-cap lay over much of North America, virtually compel the conclusion that a shift of the Earth's entire crust must have taken place."

Position of Siberia before and after possible pole shift.

IS THE POLE MOVING NOW?

Might there be another pole shift in the future?

It seems reasonable to suppose that, given the ice-cap's continual growth, the Earth's crust will once again, at some point in the future, respond to the increasing bursting stress by catastrophic fracturing.

When Professor Hapgood and Dr Einstein were at work on their calculations in the 1950s, they had no way of anticipating several recent discoveries that are pertinent to their research. Had they known of these recent events—and their impact on the growth of the off-centre Antarctic ice sheet—they might have placed more urgency on their work.

OUR CHILLING WORLD

In 1977 the US Central Intelligence Agency reported that climatic changes begun in 1960 had gone unnoticed until the early 1970s.[1] It says the world's climate is cooling and will revert to conditions that prevailed between 1600 to 1850. "The change of climate is cooling some significant agricultural areas and causing drought in others," as we see today in Africa.

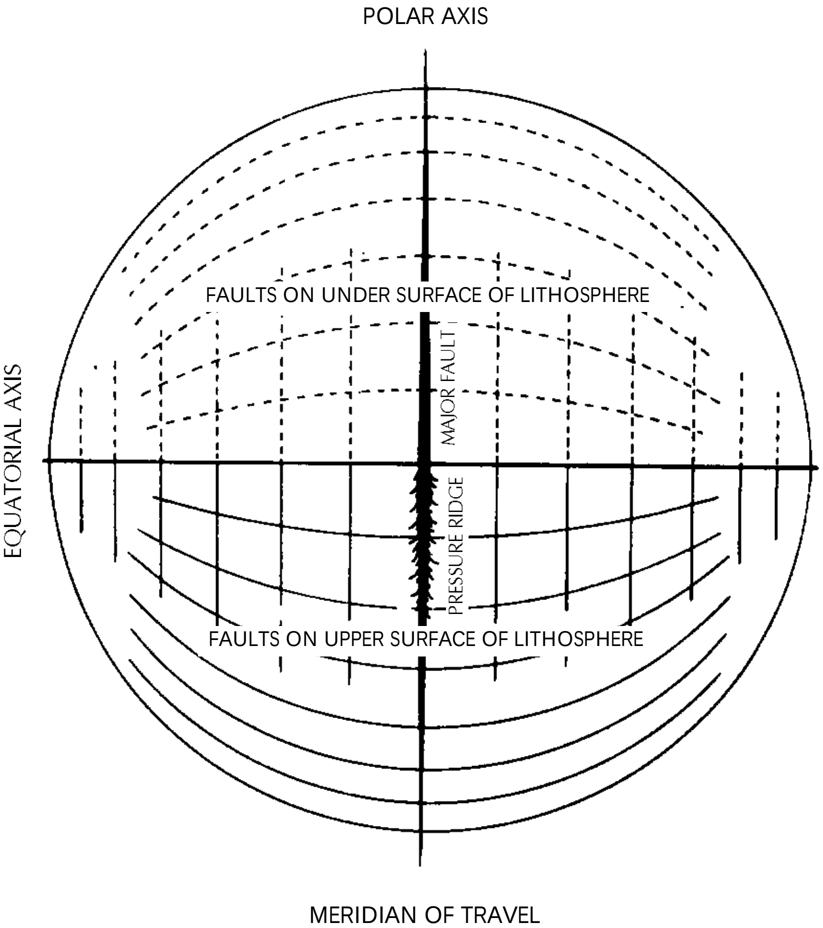
The report, as chilling as the ice growing at the south pole, says this catastrophic climate change means we can expect the death of 150 million persons in India from starvation, unless world reserves can furnish 30 to 50 million metric tons of grain there *yearly*. With a one-degree-Centigrade drop in temperature, China, with a major famine every five years, would require a supply of at least 50 million metric tons. Canada, a major grain exporter, would lose over 50 per cent of its production capability and 75 per cent of its exports in this commodity. Northern Europe would lose 25 to 30 per cent of its present production capability, the [former] Soviet Union would lose Kazakhstan for grain production, thereby showing a yearly loss of 48 million metric tons, while exports of the Common Market [European Union] countries would fall to zero. As part of the world community, the United States would be much affected by these developments. As the CIA reported, "The economic and political impact of major climatic shifts is almost beyond comprehension."

Moving into a colder environment means that the accumulation of ice at the south pole could be increasing far more rapidly than Hapgood and Einstein would have thought possible. Nor could they know of the extraordinary 766-page "Global 2000 Report to the President", published in 1980.[2] Richard Strout, Washington correspondent for the *Christian Science Monitor*, wrote, "I defy anyone to read the summary of the report without a shudder." The report warns that time is running out.

ICE-CAP INSTABILITY

Other factors possibly contributing to even faster polar ice build-up include the alarming accumulation of CO_2 in the atmosphere, which supplies the moisture for extremely rapid glaciation;[3] the worldwide death of micro-organisms in the Earth's soil,[4] and its likely result, the worldwide death of trees;[5] a worldwide

Displacement of the Lithosphere

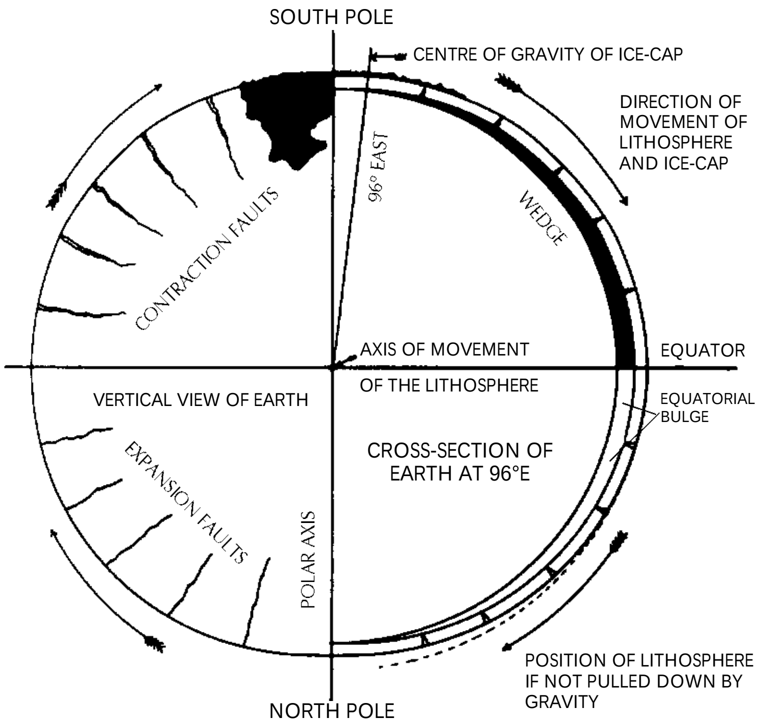


Patterns of Fracture

This figure indicates schematically the mechanics of faulting and folding in a displacement of the lithosphere. It is suggested, for purposes of illustration only, that all effects are concentrated on the meridian of maximum lithosphere displacement. Therefore, only one major meridional fault is shown in the upper hemisphere, which is moving toward the equator. Dashed lines indicate other faults opening from the bottom of the lithosphere as the arc of the surface diminishes. Across the equator, where the surface is moving toward the pole and compression is resulting, the continuation of the major expansion fault is shown as a pressure ridge, which may later become the main axis of a mountain range. Again, for purposes of illustration only, it is assumed that all folding will take place along the meridian of maximum displacement. If the major fault is filled with molten magma, and the magma solidifies, then this intruded matter, which has expanded the lithosphere, must add to the folding in the lower hemisphere, which is moving toward a pole. In the lower hemisphere the unbroken lines indicate fractures opening from the top, as the arc of the surface increases. (From *Path of the Pole* by Charles H. Hapgood ©1970. Reprinted by permission of the author.)

Vertical View

This figure illustrates a number of simultaneous effects of displacement. The upper right-hand quadrant shows a sector of the lithosphere displaced toward the equator. Here the lessening arc of the surface will cause faults to open from the bottom. The lower right-hand quadrant shows a sector of the lithosphere displaced toward a pole. Here the increasing arc of the surface results in faults opening from the top. The lower left-hand quadrant, which is a vertical view of a sector moving equatorward, shows major meridional faults which have opened from the bottom. The upper left-hand quadrant, which is a vertical view of a sector displaced poleward, shows meridional faults opening from the top. The reader should visualise the left-hand quadrants as if looking straight down in the Earth at the point where the central meridian of displacement (96°E longitude, in this case) crosses the equator. (From *Path of the Pole* by Charles H. Hapgood ©1970. Reprinted by permission of the author.)



increase in deserts which reflect into space 30 per cent of the solar energy they receive, further chilling the Earth;[6] an alarming increase in forest fires worldwide,[7] which, among combustion products, put more CO_2 into the atmosphere, supplying the moisture to build more and more ice—which reflects 80 to 90 per cent of solar energy into space.

In 1966, 444 billion tons of ice were added to the interior of the south pole's ice mass.[8] Should this rate of growth simply have remained constant in the last 14 years, it would mean that, by 1980, six trillion tons were added to the already off-canter ice-cap deposit.[9]

In 1970 the ice-cap's centre of gravity was 345 miles from the polar axis.[10] The huge weight of the ice-cap has depressed the ground below sea level in many places so that much of it is lying on slippery bedrock.[11] Meltwater penetrating the cracks and crevices of the ice sheet may also serve as a lubricant.[12] The underlayer, or asthenosphere, below the Earth's crust would also act as a lubricant because its rocks are too hot to crystallise.[13]

Campbell compared this asthenospheric movement to the motion of ice floes:

"Observe how vast fields of ice are started in motion just by the friction of the wind on the surface of the ice... Again, you will see the same thing by visiting a pond where they are cutting ice. You will see men pushing around blocks of ice of three or four hundred square feet with the greatest ease as long as the ice is floating on the water..."

Because of the above developments, I believe we might safely infer that the south pole's ice mass may not be one of the most stable geological constructions on Earth. But has it already begun moving?

THE MOVING CRUST?

Two rather curious pieces of evidence suggest that the Earth's crust may be in motion. We have two observations of a shift of the north pole with reference to the Earth's surface.

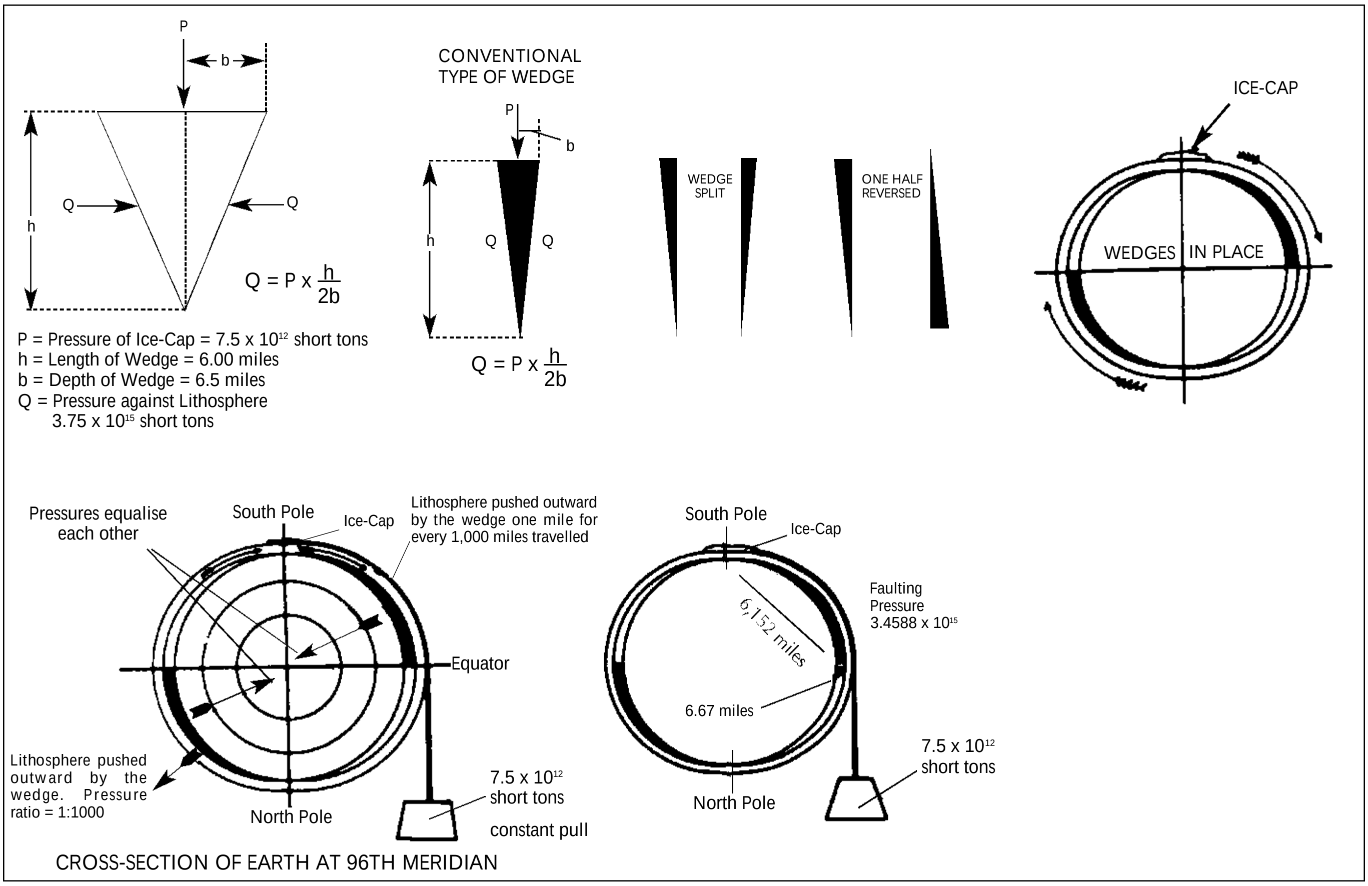
The first observation is cited by Deutsch[14] on the authority of Munk and MacDonald. It suggests that the north pole moved 10 feet in the direction of Greenland, along the meridian of 45° West longitude, during the period from l900 to 1960. According to Deutsch, this would indicate a rate of six centimetres (about 2.5 inches) per year.

The other finding, cited by Markowitz[15] and based on older data, suggests the pole shifted about 20 feet between 1900 and 1968, along the meridian of 65° West longitude, and that it is now moving at a rate of about 10 centimetres (four inches) yearly.

The difference between the two longitudes may not be particularly significant, as the angular difference so near the pole is small, but the difference in the two rates of motion may be very important.

First, it must be noted that a speed of 10 centimetres yearly is two or three times the maximum speed usually estimated for subcrustal convection currents. This appears to imply that the displacement indicated as now occurring is not powered by convection currents. Another mechanism may be at work.

The second point, possibly even more interesting than the first, is that if both these observations were accurate—as we have every right to expect in view of the eminence of the investigators—then here we may have evidence of a geometrical acceleration of the rate of motion. If the pole shifted 10 feet between 1900 and 1960, but 20 feet between 1900 and 1968, then it moved 10 feet in only eight years, suggesting acceleration by a factor of about eight.



The mechanical principles of the wedge, from *Path of the Pole*, ©1970 by Charles H. Hapgood. Reprinted by permission of the author.

The mechanism is based on a formula involving the geometrical progression of centrifugal effects; that is, the formula for calculating centrifugal force, which is a simple methodology (see Technical Appendix).

THE ICE-CAP IN MOTION

Two distinctly separate physical functions are discernible in the ice-cap. The first is the centrifugal momentum causing the crust to change its position in relation to the poles. When the crust comes to a standstill for want of sufficient force, the second function, that of the wedge, commences to build pressure of tremendous potential—500 times the force produced by the ice-cap—that would continue to build at the rate of 500 times the increasing pressure until it finally split the crust.

Then the pressure drops and the first function would take hold and once again begin moving the crust. This alternating action would continue until the ice-cap is destroyed by the equatorial sun.

The wedge does not multiply the power of the centrifugal momentum as such. The power disposed for the crust's movement remains the same, but the static pressure that would fracture the crust and thereby permit the ice-cap's centrifugal momentum to start crustal movement would be multiplied by 500.

The wedge has likely been functioning ever since the first permanent snow fell on the Antarctic continent; it is, for the moment, probably still functioning today. At the same time, the centrifugal momentum of the ice-cap may be patiently standing by, waiting for the crust to fracture.

Is it awaiting that moment when the crust fractures to release an ice-cap larger than the United States and Mexico combined[16] for a holocaust-like journey toward the equator?

Only time will tell. ∞

Endnotes

1. Noone, Richard W., *5/5/2000: Ice, The Ultimate Disaster*, Crown Publishing, New York, 1982, 1986 (revised 1997), pp. 313-14.
2. ibid., p. 307.
3. Hamaker, John D., *The Survival of Civilization*, Hamaker-Weaver, Burlingame, 1982, pp. 69-74.
4. op. cit., p. 25.
5. op. cit., p. 125.
6. op. cit., p 165.
7. op. cit., p. 88.
8. Bull, Colin, *Snow Accumulation in Antarctica*, Institute of Polar Studies, Columbus, Ohio, USA, 1971.
9. Noone, op. cit., p. 326.
10. Hapgood, Charles H., *Path of the Pole*, Chilton, New York, 1970, p. 338.
11. ibid.
12. op. cit., p. 27; data according to J. Tuzo Wilson.
13. Runcorn, S.K. (Ed.), *Continental Drift*, Academy Press, New York, 1962, p. 143; according to Campbell.
14. Deutsch, Ernst R., "Polar Wandering and Continental Drift", in Munyan, Arthur C. (Ed.), *Polar Wandering and Continental Drift*, Society of Mineralogists, Tulsa, Special Publication No. 10, July 1963.
15. Markowitz, William and Guinot, B., *Continental Drift, Secular Motion of the Pole and Rotation of the Earth*, International Astronomical Union Symposium No. 2, Dordrecht, Holland; Reidel, 1968; Springer, New York, 1968.
16. *World Book Science Annual*, 1975, p. 96. See also *World Book Encyclopedia*, vol. A, p. 323, 1955 edition, which stated that the Antarctic continent was only "two-thirds as large as North America".

Editor's Note:
Due to space constraints we are postponing our promised summary of climate change reports until the next issue of NEXUS—by which time there will be even more conflicting news to report!

About the Author:
Richard W. Noone is the author of *5/5/2000: Ice, The Ultimate Disaster*, first published in 1982, and republished in 1986 by Harmony Books, a division of Crown Publishers, New York (revised Three Rivers Press/Crown edition, 1997).

TECHNICAL APPENDIX

The calculations of the centrifugal effect of the present Antarctic ice-cap and the resulting bursting stress on the crust were worked out by Campbell. The phraseology here is in part that of Dr John M. Frankland, of the US Federal Bureau of Standards, who was kind enough to review the calculations.

a. Centrifugal Effect of the Rotation of the Antarctic Ice-cap:

Assume isostatic adjustment 0, centre of gravity of the ice-cap 345 miles from the polar axis, and volume of the ice equal to 6,000,000 cubic miles.

W = Weight of the ice-cap = 2.500×10^{16} short tons,
F = Centrifugal effect in pounds = Wv^2/gR, where
v = Velocity of revolving ice-cap, 132 feet per second,
R = Distance from the axis of rotation to the centre of gravity of the ice-cap = 345 miles = 1,821,600 feet,
g = Acceleration due to gravity = 32.
F = $Wv^2/gR = 2.5 \times 10^{16} \times 132.45^2/32 \times 1,821.600$
= $43,870.75 \times 10^{16}/58,291,200 = 7.5 \times 10^{12}$ short tons
= 6.8×10^{12} metric tons, radial force tangential to the Earth's surface. (This, of course, is an upper estimate and may be too large by a factor of two or three.)

b. Bursting Stress on the Lithosphere:

An approximation of the bursting stress caused by this centrifugal effect can be reached by simple methods, as follows. More elaborate approaches hardly seem justified in view of the uncertainty of the magnitude of the centrifugal force.

It is assumed that the entire resistance to the motion of the lithosphere arises from the fact that the Earth is not a perfect sphere but an oblate spheroid. The tangential, or shearing, stresses between the lithosphere and the underlying asthenosphere are considered negligible because of the time factor and because of the assumed viscosity of the asthenosphere.

If one considers the great circle passing through the centre of gravity of the ice-cap, at right angles to the meridian of centrifugal thrust of the ice-cap, it is evident that the circumference of this great circle will be increased if the ice-cap is displaced away from the pole. Of course, any stress system that arises in this way will be two-dimensional, but one will hardly be in error by a factor of more than two if one neglects the two-dimensional character of the stresses and assumes instead that they are uniaxial. Of course, the only purpose of this computation is to show the effect's order of magnitude.

With this kind of approximation, one may view the equatorial bulge as a kind of wedge upon which the lithosphere is being pushed. There are, of course, two wedges, one on each side of the globe.

The bursting stress is the product of the tangential effect of the ice-cap by the ratio of the gradient of the bulge:
1) Thickness of bulge (wedge) at its butt end = 6.67 miles.
2) Ratio of travel to lift, of bulge wedge = 6,152:6.67.
3) Stress on cross-section of the lithosphere (taken as 40 miles thick) = $7.5 \times 10^{12} \times 6,152/6.67 \times 2 = 3.3488 \times 10^{15}$ short tons = $3.4588 \times 10^{15}/990,894 = 3.5 \times 10^{7}$ short tons per square inch = approx. 1,700 pounds per square inch.